coverage area extends in any azimuthal direction beyond the DTV coverage area determined for the DTV allotment reference facilities, then the authorized DTV facilities are to be used in addition to the assumed facilities of the initial DTV allotment to determine protection from new DTV allotments pursuant to section 73.623(d) and from subsequent DTV applications filed pursuant to section 73.623(c). The provisions of this paragraph regarding increases in the ERP or antenna height of DTV stations on channels in the initial DTV Table of allotments shall also apply in cases where the licensee or permittee seeks to change the station's channel as well as alter its ERP and antenna HAAT. Licensees and permittees are advised that where a channel change is requested, it may, in fact, be necessary in specific cases for the station to operate with reduced power, a lower antenna, or a directional antenna to avoid causing new interference to another station.

(6) A DTV station that operates on a channel 2-6 allotment created subsequent to the initial DTV Table will be allowed a maximum ERP of 10 kW if its antenna HAAT is at or below 305 meters and it is located in Zone I or a maximum ERP of 45 kW if its antenna HAAT is at or below 305 meters and it is located in Zone II or Zone III. A DTV station that operates on a channel 2-6 allotment included in the initial DTV Table of Allotments may request an increase in power and/or antenna HAAT up to these maximum levels, provided the increase also complies with the provisions of paragraph (f)(5) of this section.

(i) At higher HAAT levels, such DTV stations will be allowed to operate with lower maximum ERP levels in accordance with the following table and formulas (the allowable maximum ERP for intermediate values of HAAT is determined using linear interpolation based on the units employed in the table):

Maximum Allowable ERP and Antenna Height
for DTV Stations In Zones II or III On Channels 2-6

Antenna HAAT (meters)	ERP (kW)
610	10
580	11
550	12
520	14
490	16
460	19
425	22
395	26
365	31
335	37
305	45

(ii) For DTV stations located in Zone I that operate on channels 2-6 with an HAAT that exceeds 305 meters, the allowable maximum ERP expressed in decibels above 1 kW (dBk) is determined using the following formula, with HAAT expressed in meters:

$$ERP_{max} = 92.57 - 33.24 * \log_{10}(HAAT)$$

(iii) For DTV stations located in Zone II or III that operate on channels 2-6 with an HAAT that exceeds 610 meters, the allowable maximum ERP expressed in decibels above 1 kW (dBk) is determined using the following formula, with HAAT expressed in meters:

$$ERP_{max} = 57.57 - 17.08 * \log_{10}(HAAT)$$

(7) A DTV station that operates on a channel 7-13 allotment created subsequent to the initial DTV Table will be allowed a maximum ERP of 30 kW if its antenna HAAT is at or below 305 meters and it is located in Zone I or a maximum ERP of 160 kW if its antenna HAAT is at or below 305 meters and it is located in Zone II or Zone III. A DTV station that operates on a channel 7-13 allotment included in the initial DTV Table of Allotments may request an increase in power and/or antenna HAAT up to these maximum levels, provided the increase also complies with the provisions of paragraph (f)(5) of this section.

(i) At higher HAAT levels, such DTV stations will be allowed to operate with lower maximum ERP levels in accordance with the following table and formulas (the allowable maximum ERP for intermediate values of HAAT is determined using linear interpolation based on the units employed in the table):

Maximum Allowable ERP and Antenna Height
for DTV Stations In Zones II or III On Channels 7-13

Antenna HAAT (meters)	ERP (kW)
610	30
580	34
550	40
520	47
490	54
460	64
425	76
395	92
365	110
335	132
305	160

(ii) For DTV stations located in Zone I that operate on channels 7-13 with an HAAT that exceeds 305 meters, the allowable maximum ERP expressed in decibels above 1 kW (dBk) is determined using the following formula, with HAAT expressed in meters:

$$ERP_{max} = 97.35-33.24*\log_{10}(HAAT)$$

(iii) For DTV stations located in Zone II or III that operate on channels 7-13 with an HAAT that exceeds 610 meters, the allowable maximum ERP expressed in decibels above 1 kW (dBk) is determined using the following formula, with HAAT expressed in meters:

$$ERP_{max} = 62.34-17.08*\log_{10}(HAAT)$$

(8) A DTV station that operates on a channel 14-59 allotment created subsequent to the initial DTV Table will be allowed a maximum ERP of 1000 kW if their antenna HAAT is at or below 365 meters. A DTV station that operate on a channel 14-59 allotment included in the initial DTV Table of Allotments may request an increase in power and/or antenna HAAT up to these maximum levels, provided the increase also complies with the provisions of paragraph (f)(5) of this section.

(i) At higher HAAT levels, such DTV stations will be allowed to operate with lower maximum ERP levels in accordance with the following table and formulas (the allowable maximum ERP for intermediate values of HAAT is determined using linear interpolation based on the units employed in the table):

Maximum Allowable ERP and Antenna Height
for DTV Stations On Channels 14-59, All Zones

Antenna HAAT (meters)	ERP (kW)
610	316
580	350
550	400
520	460
490	540
460	630
425	750
395	900
365	1000

(ii) For DTV stations located in Zone I, II or III that operate on channels 14-59 with an HAAT that exceeds 610 meters, the allowable maximum ERP expressed in decibels above 1 kW (dBk) is determined using the following formula, with HAAT expressed in meters:

$$ERP_{max}=72.57-17.08*\log_{10}(HAAT)$$

(g) DTV stations operating on channels above an analog TV station.

(1) DTV stations operating on a channel allotment designated with a "c" in paragraph (b) of this section must maintain the pilot carrier frequency of the DTV signal 5.082138 MHz above the visual carrier frequency of any analog TV broadcast station that operates on the lower adjacent channel and is located within 88 kilometers. This frequency difference must be maintained within a tolerance of ± 3 Hz.

(2) Unless it conflicts with operation complying with paragraph (g)(1) of this section, where a low power television station or TV translator station is operating on the lower adjacent channel within 32 km of the DTV station and notifies the DTV station that it intends to minimize interference by

precisely maintaining its carrier frequencies, the DTV station shall cooperate in locking its carrier frequency to a common reference frequency and shall be responsible for any costs relating to its own transmission system in complying with this provision.

(h) The power level of emissions on frequencies outside the authorized channel of operation must be attenuated no less than the following amounts below the average transmitted power within the authorized channel. In the first 500 kHz from the channel edge the emissions must be attenuated no less than 47 dB. More than 6 MHz from the channel edge, emissions must be attenuated no less than 110 dB. At any frequency between 0.5 and 6 MHz from the channel edge, emissions must be attenuated no less than the value determined by the following formula:

Attenuation in dB = $-11.5(\Delta f + 3.6)$;

where: Δf = frequency difference in MHz from the edge of the channel.

This attenuation is based on a measurement bandwidth of 500 kHz. Other measurement bandwidths may be used as long as appropriate correction factors are applied. Measurements need not be made any closer to the band edge than one half of the resolution bandwidth of the measuring instrument. Emissions include sidebands, spurious emissions and radio frequency harmonics. Attenuation is to be measured at the output terminals of the transmitter (including any filters that may be employed). In the event of interference caused to any service, greater attenuation may be required.

3. Section 73.623 is amended by revising paragraphs (c), (d), (e) and (f) to read as follows:

§ 73.623 DTV applications and changes to DTV allotments.

* * * * *

(c) Minimum technical criteria for modification of DTV allotments included in the initial DTV Table of Allotments and for applications filed pursuant to this section. No petition to modify a channel allotment included in the initial DTV Table of Allotments or application for authority to construct or modify a DTV station assigned to such an allotment, filed pursuant to this section, will be accepted unless it shows compliance with the requirements of this paragraph.

(1) Requests filed pursuant to this paragraph must demonstrate compliance with the principal community coverage requirements of section 73.625(a).

(2) Requests filed pursuant to this paragraph must demonstrate that the requested change would not result in more than an additional 2 percent the population served by another station being subject to interference; provided, however, that no new interference may be caused to any station that already experiences interference to 10 percent or more of its population or that would result in a station receiving interference in excess of 10 percent of its population. The station population values for existing NTSC service and DTV service contained in Appendix B of the Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order in MM Docket No. 87-268, FCC 98-23, adopted January 29, 1998, are to be used for the purposes of determining whether a power increase or other change is permissible under this *de minimis* standard. For evaluating compliance with this

requirement, interference to populations served is to be predicted based on the procedure set forth in OET Bulletin No. 69, including population served within service areas determined in accordance with section 73.622(e), consideration of whether F(50,10) undesired signals will exceed the following desired-to-undesired (D/U) signal ratios, assumed use of a directional receiving antenna, and use of the terrain dependent Longley-Rice point-to-point propagation model. Copies of OET Bulletin No. 69 may be inspected during normal business hours at the: Federal Communications Commission, 1919 M St., N.W., Dockets Branch (Room 239), Washington, DC, 20554. These documents are also available through the Internet on the FCC Home Page at http://www.fcc.gov. The threshold levels at which interference is considered to occur are:

	D/U Ratio
Co-channel	
DTV-into-analog TV	+34
analog TV-into-DTV	+2
DTV-into-DTV	+15
First Adjacent Channel	
Lower DTV-into-analog TV	-14
Upper DTV-into-analog TV	-17
Lower analog TV-into-DTV	-48
Upper analog TV-into-DTV	-49
Lower DTV-into-DTV	-28
Upper DTV-into-DTV	-26
Other Adjacent Channel (Channels 14-69 only)	
DTV-into-analog TV, where N = analog TV channel and DTV Channel:	
N-2	-24
N+2	-28
N-3	-30
N+3	-34
N-4	-34
N+4	-25
N-7	-35
N+7	-43
N-8	-32
N+8	-43
N+14	-33
N+15	-31

(3) The values in paragraph (2) for co-channel interference to DTV service are only valid at locations where the signal-to-noise ratio is 28 dB or greater for interference from DTV and 25 dB

or greater for interference from analog TV service. At the edge of the noise-limited service area, where the signal-to-noise (S/N) ratio is 16 dB, these values are 21 dB and 23 dB for interference from analog TV and DTV, respectively. At locations where the S/N ratio is greater than 16 dB but less than 28 dB, D/U values for co-channel interference to DTV are as follows:

For DTV-to-DTV interference, the minimum D/U ratios are computed from the following formula:

$$D/U = 15+10\log_{10}[1.0/(1.0-10^{-x/10})]$$

where x = S/N-15.19(minimum signal to noise ratio)

For analog-to-DTV interference, the minimum D/U ratios are found from the following Table (for values between measured values, linear interpolation can be used):

Signal-to-Noise Ratio(dB)	Desired-to-Undesired Ratio(dB)
16.00	21.00
16.35	19.94
17.35	17.69
18.35	16.44
19.35	7.19
20.35	4.69
21.35	3.69
22.35	2.94
23.35	2.44
25.00	2.00

(4) Due to the frequency spacing that exists between Channels 4 and 5, between Channels 6 and 7, and between Channels 13 and 14, the minimum adjacent channel technical criteria specified in paragraph (2) shall not be applicable to these pairs of channels (see section 73.603(a)).

(d) Minimum geographic spacing requirements for DTV allotments not included in the initial DTV Table of Allotments. No petition to add a new channel to the DTV Table of Allotments or modify an allotment not included in the initial DTV Table will be accepted unless it shows compliance with the requirements of this paragraph.

(1) Requests filed pursuant to this paragraph must demonstrate compliance with the principle community coverage requirements of section 73.625(a).

(2) Requests filed pursuant to this paragraph must meet the following requirements for geographic spacing with regard to all other DTV stations, DTV allotments and analog TV stations:

Channel Relationship		Separation Requirement
VHF Channels 2-13		
Co-channel, DTV to DTV		
	Zone I	244.6 km
	Zones II & III	273.6 km
Co-channel, DTV to analog TV		
	Zone I	244.6 km
	Zone II & III	273.6 km
Adjacent Channel		
DTV to DTV		No allotments permitted between:
	Zone I	20 km and 110 km
	Zones II & III	23 km and 110 km
DTV to analog TV		No allotments permitted between:
	Zone I	9 km and 125 km
	Zone II & III	11 km and 125 km
UHF Channels		
Co-channel, DTV to DTV		
	Zone I	196.3 km
	Zone II & III	223.7 km
Co-channel, DTV to analog TV		
	Zone I	217.3 km
	Zone II & III	244.6 km
Adjacent Channel		
DTV to DTV		No allotments permitted between:
	All Zones	24 km and 110 km
DTV to analog TV		No allotments permitted between:
	All Zones	12 km and 106 km
Taboo Channels, DTV to analog TV only		
(DTV channels +/- 2, +/- 3, +/- 4,		
+/- 7, +/- 8, and 14 or 15 channels		
above the analog TV channel)		No allotments permitted between:
	Zone I	24.1 km and 80.5 km
	Zone II & III	24.1 km and 96.6 km

(2) Zones are defined in section 73.609. The minimum distance separation between a DTV station in one zone and an analog TV or DTV station in another zone shall be that of the zone requiring the lower separation.

(3) Due to the frequency spacing that exists between Channels 4 and 5, between Channels 6 and 7, and between Channels 13 and 14, the minimum geographic spacing requirements specified above shall not be applicable to these pairs of channels (see section 73.603(a)).

(e) Protection of land mobile operations on channels 14-20. The Commission will not accept petitions to amend the DTV Table of Allotments, applications for new DTV stations, or applications to change the channel or location of authorized DTV stations that would use channels 14-20 where the distance between the DTV reference point as defined in section 73.622(d), would be located less than 250 km from the city center of a co-channel land mobile operation or 176 km from the city center of an adjacent channel land mobile operation. Petitions to amend the DTV Table, applications for new DTV stations, or requests to modify the DTV Table that do not meet the minimum DTV-to-land mobile spacing standards will, however, be considered where all affected land mobile licensees consent to the requested action. Land mobile operations are authorized on these channels in the following markets:

City	Channels	Latitude	Longitude
Boston, MA	14, 16	42° 21' 24"	71° 03' 25"
Chicago, IL	14, 15	41° 52' 28"	87° 38' 22"
Dallas, TX	16	32° 47' 09"	96° 47' 37"
Houston, TX	17	29° 45' 26"	95° 21' 37"
Los Angeles, CA	14, 16, 20	34° 03' 15"	118° 14' 28"
Miami, FL	14	25° 46' 37"	80° 11' 32"
New York, NY	14, 15	40° 45' 06"	73° 59' 39"
Philadelphia, PA	19, 20	39° 56' 58"	75° 09' 21"
Pittsburgh, PA	14, 18	40° 26' 19"	80° 00' 00"
San Francisco, CA	16, 17	37° 46' 39"	122° 24' 40"
Washington, D.C.	17, 18	38° 53' 51"	77° 00' 33"

(f) Negotiated agreements on interference. Notwithstanding the minimum technical criteria for DTV allotments specified above, DTV stations operating on allotments that are included in the initial DTV Table may: 1) operate with increased ERP and/or antenna HAAT that would result in additional interference to another DTV station or an analog TV station if that station agrees, in writing, to accept the additional interference; and/or 2) implement an exchange of channel allotments between two or more licensees or permittees of TV stations in the same community, the same market, or in adjacent markets provided, however, that the other requirements of this section and of section 73.622 are met with respect to each such application. Such agreements must be submitted with the application for authority to construct or modify the affected DTV station or stations. The larger service area resulting from a negotiated change in ERP and/or antenna HAAT will be protected in accordance with the provisions of paragraph (c) of this section. Negotiated agreements under this paragraph can include the exchange of money or other considerations from one station to another, including payments to and from noncommercial television stations assigned reserved

channels. Applications submitted pursuant to the provisions of this paragraph will be granted only if the Commission finds that such action is consistent with the public interest.

4. Section 73.625 is amended by adding paragraph (c)(5) to read as follows:

Section 73.625 DTV coverage of principal community and antenna system.

* * * * *

(c) * * *

* * * * *

(5) Applications proposing the use of electrical beam tilt pursuant to section 73.622(f)(4) must be accompanied by the following:

(i) Complete description of the proposed antenna system, including the manufacturer and model number. Vertical plane radiation patterns conforming with paragraphs (c)(3)(iv), (c)(3)(v) and (c)(3)(vi) of this section.

(ii) For at least 36 evenly spaced radials, including 0 degrees corresponding to true North, a determination of the depression angle between the transmitting antenna center of radiation and the radio horizon using the formula in paragraph (b)(2) of this section.

(iii) For each such radial direction, the ERP at the depression angle, taking into account the effect of the electrical beam tilt, mechanical beam tilt, if used, and directional antenna pattern if a directional antenna is specified.

(iv) The maximum ERP toward the radio horizon determined by this process must be clearly indicated. In addition, a tabulation of the relative fields representing the effective radiation pattern toward the radio horizon in the 36 radial directions must be submitted. A value of 1.0 should be used for the maximum radiation.

5. Section 73.3572 is amended by revising paragraph (a) to read as follows:

73.3572 Processing of TV broadcast, low power TV, TV translator and TV booster applications.

(a) * * *

* * * * *

(2) However, if the proposed modification of facilities, other than a change in frequency, will not increase the signal range of the low power TV, TV translator or TV booster station in any horizontal direction, the modification will not be considered a major change.

(i) Provided that in the case of an authorized low power TV, TV translator or TV booster which is predicted to cause or receive interference to or from an authorized TV broadcast station pursuant to section 74.705 or interference with broadcast or other services under section 74.703 or section

74.709, that an application for a change in output channel, together with technical modifications which are necessary to avoid interference (including a change in antenna location of less than 16.1 km), will not be considered as an application for a major change in those facilities.

(ii) Provided further, that a low power TV, TV translator or TV booster station: (a) authorized on a channel from channel 60 to 69, or (b) which is causing or receiving interference or is predicted to cause or receive interference to or from an authorized DTV station pursuant to 74.706, or (c) which is located within the distances specified below in paragraph (c) of this section to the coordinates of co-channel DTV authorizations (or allotment table coordinates if there are no authorized facilities at different coordinates), may at any time file a displacement relief application for a change in output channel, together with any technical modifications which are necessary to avoid interference or continue serving the station's protected service area. Such an application will not be considered as an application for a major change in those facilities. Where such an application is mutually exclusive with applications for new low power TV, TV translator or TV booster stations, or with other nondisplacement relief applications for facilities modifications, priority will be afforded to the displacement application(s) to the exclusion of the other applications.

(iii) The geographic separations to co-channel DTV facilities or allotment reference coordinates, as applicable, within which to qualify for displacement relief are the following:

(a) Stations on UHF channels:	265 km (162 miles)
(b) Stations on VHF channels 2 - 6:	280 km (171 miles)
(c) Stations on VHF channels 7 - 13:	260 km (159 miles)

Engineering showings of predicted interference may also be submitted to justify the need for displacement relief.

(iv) Provided further, that the FCC may, within 15 days after acceptance of any other application for modification of facilities, advise the applicant that such application is considered to be one for a major change and therefore subject to the provisions of section 73.3580 and section 1.1111 pertaining to major changes.

PART 74 -- EXPERIMENTAL RADIO, AUXILIARY, SPECIAL BROADCAST AND OTHER PROGRAM DISTRIBUTION SERVICES

5. The authority citation for Part 74 continues to read as follows:

AUTHORITY: Secs. 4, 303, 48 Stat. 1066, as amended, 1082, as amended; 47 U.S.C.154, 303, 336, and 554.

6. Section 74.706 is amended by revising paragraph (d)(2) to read as follows:

§ 74.706 Digital TV (DTV) station protection.

* * * * *

(d) A low power TV, TV translator or TV booster station application will not be accepted if the ratio in dB of its field strength to that of the DTV station (L/D ratio) fails to meet the following:

(1) -2 dB or less for co-channel operations. This maximum L/D ratio for co-channel interference to DTV service is only valid at locations where the signal-to-noise (S/N) ratio is 25 dB or greater. At the edge of the noise-limited service area, where the S/N ratio is 16 dB, the maximum L/D ratio for co-channel interference from analog low power TV, TV translator or TV booster service into DTV service is -21 dB. At locations where the S/N ratio is greater than 16 dB but less than 28 dB, the maximum L/D field strength ratios are found from the following Table (for values between measured values, linear interpolation can be used):

Signal-to-Noise Ratio(dB)	Low Power-to-DTV Ratio(dB)
16.00	21.00
16.35	19.94
17.35	17.69
18.35	16.44
19.35	7.19
20.35	4.69
21.35	3.69
22.35	2.94
23.35	2.44
25.00	2.00

(2) + 48 dB for adjacent channel operations at:

(i) The DTV noise-limited perimeter if a low power TV, TV translator or TV booster station is located outside that perimeter.

(ii) At all points within the DTV noise-limited area if a low power TV or TV translator is located within the DTV noise-limited perimeter, as demonstrated by the applicant.

Separate Statement
of
Commissioner Susan Ness

Re: Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service

Today we complete the final adjustments to our plan governing digital and high definition broadcasting. Through multiple rounds of public comment and consideration we have adopted the DTV transmission standard, service and application rules, technical requirements for station operations, and channel allotments and assignments for existing broadcasters.

Our rules have been carefully crafted to provide the strongest possible base for the transition from analog to digital television. My concern remains focused on ensuring that consumers reap the benefits of a markedly improved broadcast television service.

The stakeholders -- broadcasters, programmers, advertisers, equipment manufacturers, computer hardware and software providers, cable television and broadcast satellite operators -- now will determine what products and services are delivered to the American public.

Our decisions today strengthen the ability of broadcasters to build their stations and initiate service promptly. We have reconfigured the allotment table and have allowed UHF broadcasters to increase their power and use tilt beam antennas to reduce the disparity in power levels between UHF and VHF stations. These measures will ensure that UHF broadcast licensees can provide good coverage throughout their service areas, including reception inside buildings.

We have streamlined procedures so that broadcasters easily can move their transmitters within specified areas and upgrade where interference is *de minimus*. And we have preserved low power and translator stations where feasible. We also have addressed an engineering obstacle that surfaced after issuance of our original Table of Allotments last April -- the problem of adjacent channel interference. To reduce the likelihood of interference, we expanded the definition of "core spectrum" (or final spectrum for digital broadcasting) to include channels 2-51.

Expanding the Core

Having previously cited the benefits to the American public of repacking the digital channels, and reauctioning as much spectrum as possible after completion of the digital transition, I write separately to highlight my reasons for approving expansion of the "core" spectrum. By

including an additional five channels within the "core," we provide greater flexibility, particularly in the populated areas of the country. This permits us to minimize the problem of adjacent channel interference so that the consumer receives the clearest signal possible.

The consumer reaps other benefits from expanding the core. By adding 30 megahertz to the core spectrum, we permit about 500 existing low power and translator stations to continue their operations. These stations otherwise might have been displaced during the transition. We also eliminate the need for about 120 stations to make a costly second move of their digital channel at the end of the transition period. And rural consumers will continue to receive service from the translators that otherwise were in jeopardy of being shuttered, as well as from stations operating in the lower VHF channels 2-6 which, for scientific propagation reasons, better serve rural and hilly regions. An additional benefit of expanding the core is adding channels throughout the country, including in major markets, which could increase the diversity of broadcast ownership.

Finally, concerns were raised that by expanding the core we would lessen the revenue to the government from later auctions. This is not the case. Our decision today will result in approximately 175 additional digital channels within the expanded core, including some in major markets that will be extremely valuable. When we made our decisions last April we did not have authority to auction these channels. In July Congress authorized us to assign broadcast channels by auction, and we intend to do so. These auctions should generate significant proceeds, and as a result I believe that expanding the core will not result in any discernible diminution to the expected revenue when the spectrum is recovered at the end of the transition from analog to digital broadcasting.

Conclusion

The cumulative impact of our DTV decisions will be to provide the maximum opportunity for a robust and successful transition to digital service; to preserve significant numbers of low power and translator stations that otherwise would have had to go dark at some point during the transition; to create additional channels for new entrants into digital broadcasting or other digital data services; and to ensure adequate reception of UHF digital signals. For these reasons, I support the changes and decisions made in these two reconsideration orders.

SEPARATE STATEMENT OF COMMISSIONER HAROLD W. FURCHTGOTT-ROTH
DISSENTING IN PART

Re: Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service -- Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order

With one exception, I support all aspects of today's decision on digital television. At long last, we are providing television broadcasters the information they need to convert to the new DTV technology.

I dissent, however, from the Commission's decision to reduce by 30 MHz the amount of clear spectrum that can be reallocated from broadcasting to other communications services. As described below, I am concerned not only with the specifics of this decision and its clear implications for our spectrum management policy and the federal budget, but also a disturbing trend that is emerging in our decision making.

During the transition period -- when analog NTSC and DTV stations will be operating simultaneously -- DTV allotments and assignments will be scattered among all the spectrum channels currently allocated to television broadcasting. These channels are numbered 2-69. At the end of the transition, when NTSC stations are turned off, far fewer spectrum channels are needed to accommodate only the DTV stations. As the Commission decided last year, the excess spectrum can be reallocated to other radio services, such as personal communications services (PCS), and would be licensed by auction. The remaining DTV spectrum is known as the "core," and was proposed last year to span channels 7-51.

Subsequent to our decision last year to designate channels 7-51 as the DTV core, the Congressional Budget Office (CBO) estimated the revenues that will be generated by auction of spectrum outside of the core. This estimate then was included in federal budget planning.

Also after our decision, several parties suggested that VHF spectrum covered by channels 2-6 would be necessary for DTV signals to replicate the service areas of the analog NTSC stations currently assigned channels 2-6. The key reason cited was the propagation characteristics of VHF signals; they tend to "hug" the ground and, thus, they easily can reach some viewers (located in valleys, for example) that UHF signals -- *e.g.*, in channels 47-51 -- cannot. Further, this VHF spectrum is less valuable for new mobile services than would be the same amount of UHF spectrum. Thus, it made perfect sense to "slide" the core down by five channels so that it would cover channels 2-46, and reallocate the spectrum in channels 47-51 to mobile or other radio services. I supported this approach.

Unfortunately, we are taking another approach. We are designating channels 2-51 as the DTV core spectrum. Thus, we are adding an additional five channels, 6 MHz each, to the band allocated for television broadcasting. This decision reduces by 30 MHz the amount of clear spectrum that can be reallocated for other radio services and auctioned to new licensees.

The reasons we give for justifying this spectrum grab can be boiled down to a spectrum management aphorism: "more is better." Yes, it is true that sharing among DTV stations after the transition will be eased by having 30 MHz more for broadcasting. And, yes, it is true that it will be easier to accommodate new LPTV stations after the transition. What our order does not say, however, is that the pressing need for television broadcasting spectrum -- for both DTV and for LPTV -- arises *during* the transition, not after. Thus, our decision to expand the post-transition core will do little to ease the technical burdens of the transition on full power broadcasters and will do nothing to save existing LPTV stations that are displaced during the transition. (One should ask how much comfort the LPTV stations pushed off the air during the transition will take from the fact that they might be able to begin broadcasting again several years later, after the transition is over.)

Even if the very limited benefits of expanding the post-transition core somehow justified reduction in the amount of spectrum available for auction to other services, the FCC has made no attempt to quantify how much additional DTV spectrum is necessary. Do we need to add one more channel? Two? Three? Indeed, it is no mere coincidence that we have determined today that the post-transition core must be exactly 30 MHz wider than we proposed last year. Having made the reasonable decision to include the VHF channels 2-6 in the DTV core, the Commission simply refused to make the hard choice of keeping the core at the same size and added five channels totalling 30 MHz. More is better.

Or is it?

Looking at the benefits side of the ledger, I would agree there are some benefits (if overstated) to simply adding 30 MHz to the permanent TV broadcasting allocation. What we yet again have failed to do, however, is to consider the costs side of the ledger.

From a spectrum management perspective, we have decided -- again with little consideration -- to maintain additional spectrum for a radio service that serves fixed receivers at the expense of other services, particularly mobile radio services that by definition cannot employ wireline delivery media. The costs of this decision could be enormous in terms of the new services that consumers never see, or savings on existing services they never realize.

From the perspective of fiscal responsibility, it is distressing that we -- on our own motion -- have removed a full 30 MHz of clear spectrum from the amount scored into the federal budget by the CBO. It is no answer to say that our recently-granted authority to auction broadcasting licenses, including the post-transition interstitial licenses in the DTV core (whether 2-46 or 2-51) will allow us to raise more money than auctioning channels 47-51 after they are cleared. The point here is that sum of the auction revenues from clear channels 47-51 and the interstitial post-transition DTV licenses in channels 2-46 surely will exceed the revenues from auctioning the interstitial post-transition DTV licenses in channels 2-51.

How ironic that the Commission currently is engulfed in deliberations considering the final disposition of licenses for the C-Block PCS spectrum. It strains credulity for us to fight

for auction payments to the Treasury for one 30 MHz block of UHF spectrum, but cavalierly give away another 30 MHz block of UHF spectrum.

Finally, as noted above, I am very concerned at the emerging pattern here. We seem to say that as long as there are benefits to a decision, the costs do not matter, and that such decisions are particularly easy if consumers never know what services they are missing or how the federal budget is affected. This unwillingness to conduct straightforward cost-benefit analyses and provide consumers all the information they deserve is becoming a shameful hallmark of this agency.

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